

# SHEET FEEDERS PLUG INTO ENERGY SAVING STRATEGY



CORRUGATED PLANTS ARE ADOPTING A NEW PROPRIETARY TECHNOLOGY TO REDUCE THEIR KILOWATT CONSUMPTION AND PROTECT THEIR EQUIPMENT. BY JACKIE SCHULTZ

**As energy costs increase, corrugator plants are looking for every opportunity to reduce usage. One solution that several companies have embraced is from WPS Global Inc., an energy management organization. The proprietary technology ensures that the equipment in the corrugator plants is not using more power than it needs.**

"We are conditioning the power inside the facility, feeding the equipment the electricity it needs, and we're not allowing it to draw any more than what it is expected to draw," explains Bill Behrmann, WPS Global President.

Each solution is customized, depending on the plant's electricity usage, type of equipment and layout. The process begins with an audit of electricity usage. "From there we will design a

system that will clean the power and protect the equipment," Behrmann says. "WPS presents a proposal and when the company accepts it then, off of my specs we install the equipment."

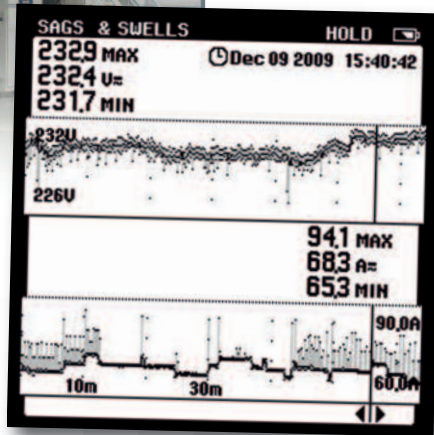
Plants can either purchase or lease the equipment. WPS provides a savings contract that guarantees that the equipment will save the plant money.

"Within the proposal we have estimated savings of normally 10% within a payback period," Behrmann says. "If we estimate this payback in two years and we miss that and it takes two and a half years, we will cough up whatever difference that we missed our mark by."

Behrmann says he has never had to pay the difference.



RIGHT: A POWER QUALITY METER READING TAKEN BEFORE THE WPS GLOBAL SYSTEM IS INSTALLED. THE VOLTAGE AND AMPERAGE LEVELS DEMONSTRATE DIRTY POWER.



### Guaranteed Savings

John Lingle, Sheet Feeder Manager for Schwarz Partners Packaging (SPP), has recommended the system to seven plants in the Schwarz Group and another three when he worked for Smurfit-Stone Container Corp. (SSCC).

The WPS Global KWH-reduction system has saved the plants between 10% and 15% in electricity costs. "We've had great success with it at all of our facilities," he says.

Innovative Packaging Corp., a Milwaukee, Wis., sheet feeder owned by SSCC, was Lingle's first experience with the system more than six years ago. He admits the first installation was a leap of faith. "The risk was, 'What if they screw up our equipment?'"

His concern turned out to be unfounded. "I recommended the system for all three plants at Smurfit and for seven of our plants in the Schwarz Group. I haven't found one yet that doesn't give us at least 10% to 12% savings."

A base line is established in order to guarantee the savings. "They'll take the previous two year's electrical bills and they'll say, 'Here's what your consumption was' and after they've put their equipment in they will

compare it to that base line," Lingle explains.

"Let's say most of our plants are spending \$30,000 a month in electricity, which is probably at least that. They (WPS) will give you an insurance policy to save you at least 10, 12 or 15%, and let's say that's \$3000 a month, they will give us a lease option or we can buy it," Lingle continues.

Behrmann says WPS can save a plant money, even if it has newer equipment. "You would think with newer machinery you wouldn't see much of a saving, but it is susceptible to power fluctuations. We can save everybody money. Part of the process is the tracking. If the tracking isn't correct then you don't see the full benefit of the system. We've never not went in and saved the company money. We've learned in the past that if we don't do our end of it, if tracking isn't correct we're not showing the customer exactly what we're saving them."

There is no maintenance required and the solution does not affect the performance of machines. "It enhances them. It protects them from dirty electricity — not a consistent supply of power," Lingle says.

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### When Lightning Strikes

The system also protects equipment against power surges due to lightning strikes, or oversupply of voltage. A surge can last up to 50 microseconds, and although very short in



POWER IS FILTERED AT THE DRIVE CABINETS BECAUSE OF THE AMOUNT OF SENSITIVE EQUIPMENT IN A HIGH VOLUME ACTION AREA.

duration, it can create expensive problems for corrugators and converting machinery. SPP's Miami, Fla., sheet feeder was a perfect candidate for the WPS system. "Many businesses with computerized machinery underestimate the costly affect Mother Nature's electrical storms can have on their equipment. The typical surge protection approach offers no guarantees, literally," Behrmann says.

The WPS system involves a number of components that work together to divert electrical surges away from the equipment's sensitive circuitry. It redirects the surges with an arrangement of maintenance-free components installed on-site. The main component used for surge suppression is called a metal oxide varistor (MOV). This component is what deflects the surge, however, the MOV is just one component.

"The system integrates other components, making it a truly unique approach and setting it apart from other surge protection options," Behrmann says.

All MOVs used in surge protection devices (SPDs) are designed to take those larger, catastrophic electrical surges and divert them to the ground. While equipment manufacturers build in MOV devices for protection, Behrmann says they currently offer customers no warranties against lighting or other causes of electrical surges and spikes. "This is because once the surge takes place, the MOV is damaged and rendered useless."

The WPS system is made to withstand any lightning event that can lead to damage. In the rare instance a unit sacrifices itself,



ABOVE: BEGINNING WITH THE MAIN SWITCH GEAR, THE SYSTEM FILTERS THE POWER FOR THE ENTIRE FACILITY. THIS INCLUDES LIGHTING PANELS, DRIVE CABINETS, MOTORS AND OTHER EQUIPMENT.

LEFT: THE COMPONENTS ARE MOUNTED IN DRIVE CABINETS, LIGHTING PANELS, MAIN SWITCH GEARS, AND ANYWHERE THAT ENSURES THE BEST RESULTS IN KILOWATT REDUCTION.



**"YOU WOULD THINK WITH NEWER MACHINERY YOU WOULDN'T SEE MUCH OF A SAVING, BUT IT IS SUSCEPTIBLE TO POWER FLUCTUATIONS," SAYS WPS GLOBAL'S BILL BEHRMANN.**

the 10-year warranty guarantees the unit will be replaced. The warranty covers the whole unit, not just certain components.

Lingle admits the technology can be baffling, especially to a layman like himself. "The engineers are really frustrated with it because they don't know how it works. They put these little black boxes on (the equipment). I don't have a clue what's inside them. They're almost like a surge protector. The best way I can describe it is they clean up the power and they get the equipment to run more efficiently."

He says people often kid him about his praise of the system, but he defends his recommendations. "This is a business deal for me. It works and as long as it continues to work, why would I not do it? If somebody else came to me and said they could do it better, I'd listen to them. We haven't had any issues with [WPS Global]. They come in and do what they say they're going to do. I'm getting the savings and there is no risk and no downside."

Lingle says the cost to install the system ranges between \$50,000 and \$100,000, and the return on investment is less than two years.

"It's the right thing to do," he says. "Why shouldn't we do it? It's like changing a lightbulb to the (more energy efficient) lightbulbs."

WPS Global's core market is sheet feeders, however the company is expanding to sheet plants. Behrmann says the return on investment for sheet plants might be closer to two to three years because the machines are smaller.